

**A SYSTEM AND METHODOLOGY FOR CALCULATING  
THE COST OF FUTURE SEMICONDUCTOR PRODUCTS  
USING REGRESSION ANALYSIS OF HISTORICAL COST DATA**

**ABSTRACT**

5           A method and structure for predicting semiconductor product costs at a  
fabricator entailing a storage medium which includes a database of historical  
critical dimensions and historical critical groundrules correlated to cost functions  
at the fabricator. The user interface has user inputs for new design parameters and  
new critical groundrules associated with a new device to be produced at the  
10       fabricator and a computer adapted to receive the user inputs, extract data from the  
storage medium, and compute semiconductor costs for the new device. The  
historical critical dimensions and the new critical dimensions are gate dimensions  
and the new critical dimensions are smaller than the historical critical dimensions.  
This device includes a future technology generation. Fabrication hardware and  
15       fabrication methods for producing the future technology generation are unknown  
and the relationships comprise base models and models that include options. The  
relationship comprise models that illustrate that costs increase exponentially as the  
historical critical dimensions and the historical critical groundrules are reduced.